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The Slack mechanisms in the regulated Vs de-regulated environment: the empirical study from Indonesian manufacturing business units

Fuad[a*], M. Syafruddin[a], Dul Mu'id[a]
[a]Faculty of Economics and Business, Diponegoro University, Indonesia

Abstract

This study examines the impact of regulatory environment on the slack mechanisms of business units in Indonesia. The slack mechanisms of this study, specifically is conducted by testing the impacts of competitive forces and diversification on the use of accounting performance measures and financial and budgetary slack. Furthermore, this study then examines whether the impact of regulatory environment in which the company operates may affect those mechanisms. Multi-level structural equation modeling is used to test 122 firm-specific responses from manufacturing industry. The results indicate that the regulation affect the impact of competitive forces, diversification and use of accounting numbers for performance evaluation on the financial and budgetary slack.

Keywords: financial slack; budgetary slack; reliance on accounting performance measures; diversification; regulation.

1. Introduction

Organizational slack, as the excess of resources to produce a given level of organizational output (George, 2005; Love and Nohria, 2005) has been an important and intriguing domain in the strategic management and accounting literature. Its broad conceptualization (i.e. slack that is created in the budgeting processs (financial slack) and slack that is financially accumulated to absorb the shock(budgetary slack) has also contributed to the vast-array of research surveys in this area. However, due to the long and conflicting stands of two main streams in the business domain (i.e. accounting vs economics) the previous researches were still mixed, while the robust evidenves were still left unexplored on the mechanisms of slack (Yang, Wang and Cheng, 2009; Herold, Jayaraman and Narayanaswamy, 2006). One of the missing puzzles that has not been empirically tested is the regulatory environment in which firms

* Corresponding author. Tel. + 90-262-605-1426 fax. +90-262-654-3224
Email address: fuad@undip.ac.id

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must manage their slack resources; although normatively it has long been regarded affecting the dynamic nature of slack mechanisms.

The slack creation can be decomposed into two main streams namely financial and budgetary slack. Although the strategic management and management accounting literature has the similar name, their conceptualization and measurement are two different issues. For intance, management accounting researchers have focused on the subjective measures of budgetary slack. Indeed, use of such measures raises some question about the accuracy in measuring budgetary slack. Strategic management and organizational theorists on the other hand, (e.g. Bourgeouis, 1981; Cyert & March, 1963) proposed objective measures of slack in organization that rarely put into considerations in management accounting research, despite its flourishing use of its conceptualizations. Such objective measures were usually operationalized using financial indicators of slack such as absorbed and unabsorbed slack (Singh, 1986) and available (Ahuja, 2000, Combs & Ketchen, 1999), recoverable (Steensma & Corley, 2000) and potential slack (Simerly & Li, 2000, see also Daniel et al., 2004 for a meta analysis). Therefore, in order to provide a more meaningful result, this study looks at slack mechanisms from the objective and subjective measures.

Moreover, although results on the the antecedents and outcomes of slack have been widely researched, results were not consistent (kindly see Daniel et al. 2004; Stede, 2001; 2003 for reviews). As a consequence, those researches cannot significantly contribute to the coherent body of accounting literature (Lindsay and Ehrenberg, 1993).

Current study figured out how the regulatory environment impinge on the firms' slack mechanisms. The mechanism in this study is a comprehensive examination of the impact of situational, (i.e. competitive forces), structural (i.e. extent of corporate diversification) and corporate factor (i.e. corporate reliance on accounting performance measures) on the slack creation. Diversification and competitive forces are important reasons for business unit to accumulate slack. Highly diversified firms may lack of ability to detect the presence of slack in the business units and on the other hand, the uncertainty inherently attached in the business units with high competitive forces may accumulate more slack to hedge against unforeseen contingencies. Current study also explore the potentials roles of reliance on accounting performance measures (hereafter, RAPM) in mediating these relationships.

2. Literature Review and Hypothesis Development

Competitive forces consist of fundamental determinants of firm's capability to earn above-average profit that consist of rivalry among competitors in an industry, bargaining power of buyers, bargaining power of suppliers, the presence of product substitutes and the existence of potential competitors (Porter, 1980). If all of these factors are favorable, the industry will be an attractive one, in that profits will tend to be high (Peters, 1993). Herath and Indrani (2007) maintained that these environmental shocks affect the firm's information gathering capability that leads to the design of management control systems, particularly due to the nature of uncertainty attached to shocks (see also Anthony & Govindarajan, 2003, Porter, 1980).

As evidenced by Haka and Krishnan (2005), firms facing high environmental uncertainty due to increasing competitive forces perform much better by relaxing on conventional budgetary systems such as tight budgetary controls. They maintained that as the environment is uncertain, the key success factor is organizational learning, and unfortunately, conventional budget cannot provide this organizational learning. Several authors have also agreed, to some degree, with the notion that high environmental uncertainty will lead to less emphasis on attaining the budget target. For instance, Merchant (1985) maintained that financial controls may not be effective in a high environmental uncertainty as they are poor measures whether actions had been taken appropriately. Many authors such as Govindarajan (1984), Brownell and MacIntosh and Daft (1987) also provide evidences that budget cannot be used as the performance evaluation in the organizations affected by high environmental uncertainty. Their arguments particularly because accounting measures cannot be used to describe the "whole story" of environment the companies enrolled in. On other hand, lower competitive forces may indicate more accurate prediction and forecasting and thus, corporate may put high emphasis on attaining the budget target (higher RAPM). Thus, we predict that:

H_1 : firms with low level of competitive forces tend to put more emphasis on meeting the budget target rather firms with high level of competitive forces

Slack has been widely realized as the multi-dimensional constructs consisting of financial (available: immediate usable slack, recoverable: usable slack but can be easily recovered and potential slack: future potential resources) and also budgetary slack These multi-dimensional constructs of slack may be affected by situational, environmental factors the companies enrolled in. As an external pressure, competitive forces are likely to affect the presence of slack creation in business units (Galbraith, 1973). Merchant (1985) proved that slack may be used to absorb uncertainty as

the result of high competitive forces, by providing a degree of freedom from short term commitment in dealing with lack of predictability. Onsi (1973) also argued that managers require for slack resources as a strategy to hedge against unforeseen contingencies that may affect the outcomes. Similarly, Bourgeouis (1981) also maintained that slack can be act as an internal shock absorber that provides the organizations with some ample room to response in uncertainty. Therefore,

H2 : firms with low level of competitive forces tend to build less slack than firms with higher level of competitive forces.

Diversification, that can be simply defined as the extent to which an organization expands its main business into other businesses (Andrews 1980), may increase the span of control. As a consequence highly diversified corporate firm may be overload with the information that needs to be processed (Stede 2001). This will lead corporate managers barely use direct formal interventions to the business units managers. As a result, corporate managers will make use of budgetary controls as their monitoring tools. Merchant (1981), empirically tested the impact of diversification and management control systems, found that the extent of decentralization are correlated with corporate-level budgeting systems. In such, he found that more diverse, decentralized firms tend to use an administrative control strategy that put high emphasis on meeting the budget target as one of the performance measurement tools. Stede (2003) confirmed the findings of Merchant (1981). He insisted, based on Galbraith (1973) economic model, the nature of diversification strategy is related with the information capacity of the organization. More diversified firms are usually connoted with information overload that needs to be processed by the top corporate. Corporate, in this vein, have two options in order to reduce this information processing. First, corporate may rely on efficient, sophisticated information systems that are usually very costly. Second, corporate may rely on formal monitoring controls such as budgetary controls as a means to minimize the corporate unfamiliarity in controlling business units' daily operational.

Although it is common that one way to handle more information processing can also achieved by investing in a sophisticated information system however, this is not the top priority of the corporate because this type of investment does not always offer effective outcome. Moreover, distance matters. As corporate management in highly diversified firms may not have adequate information regarding specific operation activities of their business units, the corporate may highly rely on the use of accounting and budgeting numbers to evaluate the business units performance.

The above propositions did not contradict with the scholarly-acceptable Prospect theory. From the perspective of corporate, more diversification is a more gain-like domain, particularly from the management control systems view. In-line with the prior perspective, corporate of more diversified firms are more able to be relieved of day-to day decisions and can therefore concentrate on broader, other strategic planning issues (Anthony & Govindarajan, 1998). As a result corporate will as "risk-hater" in which they will put higher reliance on accounting performance measures. Hence, it is apparent that as the number of diversified firms increase, the reliance on accounting performance measure also increase.

H3 : more diversified firms put more emphasis on meeting the budget target

Pertaining to its effect on budgetary slack, it has been proposed that corporate of more diversified firms may lack monitoring and control ability because they are less familiar with the operations of distinct businesses (Merchant, 1985). As previously mentioned, corporate of more diversified firms deals with information overload. One way to diminish for this overload is through investing in information systems or creating slack. Stede (2001, p. 33) proposed that "a lower level of required performance (i.e. more slack) reduces the chance of a target being missed; and the fewer the exceptions that need to be investigated, the less overload on the top". Slack is also believed to increase the risk-taking activity and to some extent, increase innovation. As a result however, the corporate does likely to reduce slack to the extent that this may reduce the innovation activities. Instead, corporate managers may let the slack exist. Therefore:

H4 : more diversified business units create more slack rather than less diversified business units

Slack creation, as a means of protection against contingencies and uncertain future is mainly valuable in firms that put more reliance on accounting performance measures and use the budget as an exclusive tool to evaluate management performance. This organizational behaviorist views expect the positive relationship between RAPM and slack resources. This view particularly perceives slack as good, rather than bad as detracting the overall organizational performance and reflecting the inefficiencies.

Hansen et al. (2003) proposed two important situations in which the budgets can be useful and effective. First, the firm must be in a hostile and a relatively certain environment so that the budgets will be able to be used as a valid short-term plan. Second, the managers must have a reasonable predictive ability so that a budget can be used as a standard to hold mangers accountable for a given area of responsibility. Nevertheless, economists generally views that slack creation activities as bad and reflecting the organizational inefficiencies. Moreover, this view also maintains that tight budgetary controls would increase the likelihood that slack creation activities would be detected, and if possible, reduced. Hence,

H5 : tight reliance on accounting performance measures decreases the presence of slack in business units.

Prior researches have come up with the notion that how slack was accumulated is higly depending upon the extent of regulatory environment of the organization. Classic strategic economist (Cyert and March, 1963) maintained that firms with tight regulation and standards are likely to accumulate more slack than firms in the loose regulatory environment. However, Martinez and Artz (2006) insisted that firms may accumulate more slack in the case of low government regulation in the industry as it may provide them with more room to exploit the investment opportunities, growth and competitive advantage. However, as the prior researches supporting this lemma is very limited, and the proposed relationships were mixed, the hypotheses of the effects of regulation to the slack mechanisms is reflected in the null forms, as follows:

H6 : Firms' regulatory environments do not affect the relationships between:
- H_{6a} : Competitive forces on slack
- H_{6b} : diversification on slack
- H_{6c} : competitive forces on the reliance on accounting performance measures
- H_{6d} : diversifikasi terhadap penggunaan informasi akuntansi untuk evaluasi kinerja
- H_{6e} : reliance on accounting performance measures on slack

3. Research Methodology

This study was conducted using the interview and mailed-survey questionnaires. This is because managers of manufacturing industry engages in the complex, high and intense market competition and thus, their job is considered to be quite complex (Mia & Patiar, 2002). Cooper and Schlinder (2003) pointed out that the research can gain some benefits by using multiple research methods particularly as a means to check the feasibility of the questionnaires. Therefore, this approach assists the researcher in gathering information that can be generalized with a high degree of confidence.

The first approach used in this study is through the face to face interviews. This approach helps the researcher to improve the understanding related to different variables and provide an accurate interpretation of the questionnaire. Moreover, it also allows the researcher to get closer to the participating managers and their work environment and offers an excellent opportunity to improve the subjects' understanding of the questionnaire items.

The second approach, which was used for the ultimate purposes of this research, is through mailed survey. The use of questionnaires is considered to be the most suitable, widely used and economical means of collecting original data. Furthermore, this method provides information from a large population, while ensuring the respondents anonymity and allows the busy respondents to participate in the research in their own time. The questionnaires were then distributed to the selected respondents in the manufacturing industry.

Population of current research was directed to Indonesian manufacturing business units. Manufacturing corporate parents in Indonesia was chosen because of its significant contribution to the Indonesian Growth Domestic Product. Besides, budget as one of management control and planning tools is widely used and common in the manufacturing sector (Lau & Eggleton, 2003). The population frames of current study, where the source of data were gathered, were from several sources. Corporate parents' annual reports and Indonesian Capital Market Directory (ICMD) 2010 were used to identify the number of business units being controlled and firms-specific financial attributes. ICMD periodically published a concise public firm's financial statements. Firm's annual reports were then utilized to identify the business units. Another set of directory that was used in this study is Indonesian Manufacturing Industry Directory (IMID) that is issued periodically. This directory was useful in identifying addresses, primary products and employment of business units.

In order to ensure the validity of the findings, the study restricts the sampling procedure into several steps. The unit of analysis of this study is business units with the corporate annual sales that exceed Rp. 5 billion, as been suggested

by BPS. Size restriction is used to increase the probability that companies that are going to be surveyed have formalized budgetary procedures. Moreover, each respondent must be a subsidiary of a corporate with a 50% ownership minimum and must at least own two subsidiaries. Therefore, this study was conducted at the business units' level in order to understand the ways, effectiveness and appropriateness of control and monitoring activities placed by the corporate parents.

3.1. Measurements

Competitive forces reflects firms' capability to earn above average profit compare to competitors due to several external forces: 1) number of competitors, 2) rivalry among competitors, 3) bargaining power of suppliers, 4) bargaining power of buyers, 5) the presence of substitute products, 6) the presence of entry barriers (Porter 1980). The constructs was measured using the instruments of Molina et al. (2004) six items Likert Scale with 5 indicators.

Corporate diversification is conceptualized as the degree to which a corporate firm is simultaneously active in various businesses (Pitts & Hopkins, 1982). Literature on Strategic Management yields numerous operationalizations with regard to how to measure the "distinctness". The measurements however, put some more confusion on how to precisely measure diversification (see Markides & Williamson, 1996 for a review). Therefore, following Stede (2001), current study measures diversification simply as the number of business units controlled by the corporate that is publicly reported.

Reliance on accounting performance measures in this study is conceptualized as "the extent to which superiors rely on, and emphasize performance criteria which are quantified in accounting and terms, and which are pre-specified as budget targets (Harrison 1993, p. 319). In particular, this construct measures the budgetary control processes by the amount of emphasis placed on meeting the budget (Stede 2001).

Business units' slack, in this study, is conceptualized as the excess of actual or potential resources that could assist the organization to absorb the environmental pressures and shocks (Bourgeouis, 1980). This variable is a multidimensional constructs consist of two dimensions: business units' slack and budgetary slack

Financial slack represents the extent to which the organizations have the access to the resources to be further utilized during unexpected shocks or take immediate actions for the emergent opportunities (Martinez & Artz, 2006). With regard to this financial slack, agreement has been reached pertaining to its operationalizations. Financial slack represents the degree to which firms have access to resources needed to either react to unexpected crises or take advantage of emergent opportunities (Martinez & Artz, 2006). It consists of available (CRT), potential (DERT) and recoverable slack (SLEXT). Available slack is determined according to current ratio (i.e. current assets/current liabilities) which indicative the level of liquid funds a firm may access to buffer itself from the negative consequences of environmental shocks (Herold et al. 2006, see also Daniel et al. 2004 for a review). Potential slack is indicative of a firms' ability to draw upon sources of new capital resources through debt borrowing that is simply measured by debt-equity ratio (Martinez & Artz, 2006). On the other hand recoverable slack also known as absorbed slack, is the extent to which resources are embedded in firms as excess costs but could be recovered through when firms experience financial difficulty (Singh, 1986). Following Geiger and Makri (2006), recoverable slack is measured by selling, general and administrative expenses divided by sales (SLEXT)

3.2. Data Analysis

Data collection was performed in two phases. In the first phase, seven hundred questionnaires were distributed by mail to business units' managers of public-listed corporate parent. Out of 700 distributed questionnaires, many of them did not respond even after several follow-up calls. Rather, during two months after sending the first batch of the questionnaires, 125 questionnaires were received, but only 65 were usable. The low responses rate were also concurred with ones found by Mardiyah and Gudono (2001) and Jumaili and Gudono (2006).

Since the response rate was low and the data gathered was insufficient particularly for Structural Equations Modeling-typed study, a second phase of the questionnaire distribution was conducted. A number of three hundred questionnaires were distributed to the new business units and even to some of the non-responding business units during the first phase. In the second phase of data collection, the response rate was slightly better, out of three hundred distributed questionnaires, fifty six were the usable responses. It is also worth noting that individual networking was very helpful during this phase as well as self-administered questionnaires to the business units, particularly to the business units located in the central, east and west java provinces, Indonesia. Finally, after checking all the responses, one hundred thirty five questionnaires were usable. In an organizational study, one hundred thirty five observations are deemed suitable and appropriate as this type of research usually have the small sample size.

This study employes multi-level structural equation modeling in order to test the hypothesized relationships. Structural Equation Modeling (SEM) was employed in this study for several reasons. First, SEM allows the analysis of multiple relationships simultaneously that cannot be conducted by other conventional multiple regressions analyses. Thus, SEM accounts for the presence of structural errors. Ignoring these errors may lead to the specification errors affecting validity of the results. Second, SEM provides measures of overall model fit. These measures were important to figure whether the model is acceptable given a particular data. Third, and most importantly, SEM explains the significance of each relationship between the variables. SEM also allows for testing the indirect effects between variables. Fourth, unlike regression models and path analysis, SEM may account for the effects of measurement errors in multi-item variables (constructs). Since constructs were measured using multiple indicators, it is unreasonable to assume that these constructs are error-free, and instead, there are potential errors in those indicators. The model fit indices that are used in this study is depicted in table 1.

Table 1. Goodness of fit measures

Goodness of Fit Criterion	Acceptable Level	Interpretation
Chi-Square	Non-significant χ^2	A non significant χ^2 indicates a model fit
AGFI	>0.9	A population-based good model
RMSEA	<0.05	a good model index that is not sensitive to sample size
TLI	>0.9	Should be used as a comparison between null model
CFI	>0.9	Indicates a model fit that is not sensitive to sample size and degrees of freedom
CAIC	CAIC<independence<CAIC saturated	Indicates a good model given a specified population
ECVI	ECVI<independence<ECVI saturated	Indicates a good model, usually on multi-level SEM

4. Results

The profile of business units is clearly portrayed in table 2. Business units in the regulated environment consist of 55 companies and 67 were in the de-regulated environment. On the other hand, 26% of the business units have been in the business between 6-10 years and 70% were more than 10 years. Business units focusing on the consumer products were the majority of this study comprising of 58% of the total observations.

Table 2. Profile of business units

	Frequency	Percent
Extent of regulation		
- regulated business units	55	0,45
- de-regulated business units	67	0,55
Business units type		
- local	60	0,49
- multinational	62	0,51
Business units tenure		
- 1-5 years	5	0,04
- 6-10 years	32	0,26
- more than10 tahun	85	0,70
Industry type		
- Food and beverages	32	0,26
- Textile and mining	15	0,12
- Lumber and wood	18	0,15
- Chemical products	25	0,20
- Others	32	0,26

Production types		
- Consumer products	71	0,58
- Industrial products	34	0,28
- Both	17	0,14

Since this study employs structural equation modeling, both the measurement and structural models must be tested for their reliability and validity before proceeds to the hypothesis testing. All of the goodness of fit indices of this study revealed that the model has an acceptable fit indices. exhibited acceptable levels of fit with χ^2 = 12.70 (df=9). Adjusted Goodness of Fit Index (AGFI) = 0.93, Comparative Fit Index (CFI) = 0.99 and Root Mean Square Error Approximation (RMSEA) = 0.055.

Table 3. Results of the hypothesized relationships

		Highly regulated firms		De-regulated firms	
The effects of	To	Estimated parameters	T-values	Estimated parameters	t-values
Competitive forces	RAPM	-3.21	-2.021**	-0.271	-1.643
Diversification	RAPM	0.114	3.602***	0.146	3.211***
RAPM	Financial slack	-1.168	-2.23**	0.714	2.164**
RAPM	Budgetary Slack	0.411	1.997**	0.254	1.888*
Diversification	Financial Slack	0.704	1.636	0.026	0.297
Diversification	Budgetary slack	0.110	2.594***	0.096	2.184**
Competitive forces	Financial Slack	0.704	1.636	0.291	1.015
Competitive forces	Budgetary slack	0.252	1.281	0.197	1.353
Fit Indices:		χ^2/df = 1.163; CFI = 0.94; RMSEA = 0.037; TLI = 0.937; CFI = 0.945			

The results also indicate that there is a significant relationship between competitive forces and reliance on accounting performance measures (γ = -3.21, t = -2.021) in the highly regulated firms. However, this study cannot find any significance evidence of the relationship in the low regulated environments. Therefore, it is obvious that how competitive forces affect the use of accounting measures for performance evaluation differs across the regulation in which the business units operate.

It is also found that there is a significant relationship between diversification and RAPM (γ = 0.114, t =3.602) in the high regulated firms and in the low regulated environment (γ = *0.146, t = 3.211*). It is interesting to note that competitive forces do not significantly affect the financial slack at 10% level of significance (γ = 0.704; t = 1.636 for competitive forces in the high regulation and γ = 0.291; t = 1.015). Similarly, there is also very weak evidence of the significant relationship between diversification and financial slack (γ = 0.704; t = 1.636) in the regulated environment and de-regulated enviroment (γ = 0.026; t = 0.297). Surprisingly however, although the relationship between RAPM and financial is negative and significant (γ = 1-168; t = -2.23) in the regulated environment, it is found that there is a positive and significant relationship between RAPM and financial slack (γ = 0.714; t = 2.164) in the de-regulated environment. Therefore, the accumulation of slack is continuously conducted during the "smooth" situation as in the case of firms with low regulation. As expected, this study found, in both "worlds", that RAPM may increase the slack creation in the budgeting process.

5. Conclusion and avenues for further research

This study tests the slack mechanisms in the regulated vs de-regulated business units' in Indonesia. Results of this study indicate that regulation play some important roles in the business units' slack mechanisms. Particularly, this study proves that the extent of competitive forces may increase the reliance on accounting performance measures in the regulated environment but not in the de-regulated environment. On the other hand, while RAPM may increase the financial slack accumulation in the regulated environment, but it decreases the financial slack in the de-regulated

environment. RAPM however, positively affects the budgetary slack. Current study also explicitly support the notion of diversification-leading budgetary slack, where more diversified firms may lose their monitoring ability to detect the slack in the business units budget.

This study has focused on the business units' slack mechanisms in the regulated and de-regulared environments. This study clearly represents the challenging research domain regardless of the specific area it may have. However, the regulation in which the company operates has been seen from the smaller perspective and indeed. Looking at various aspects of regulation can be flourishing. Another limitation of this study is the broad conceptualization nature of slack. Although this study is among the first to examine the multi-dimensional nature of slack mechanisms in the business units, several measures may yield better internal reliability and validity. Further research should also consider these aspects.

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